

APPENDIX A: PENDING CLAIMS

128. A plant comprising a cell transformed with a recombinant DNA construct comprising a plant centromere.

129. A method of preparing a transgenic plant cell comprising contacting a starting plant cell with a recombinant DNA construct comprising a plant centromere, whereby said starting plant cell is transformed with said recombinant DNA construct.

130. The method of claim 129, wherein said recombinant DNA construct comprises a structural gene.

131. The method of claim 130, wherein the recombinant DNA construct comprises a second structural gene.

132. The method of claim 129, wherein the plant centromere is an *Arabidopsis thaliana* centromere.

133. The method of claim 132, wherein said starting plant cell is an *Arabidopsis thaliana* cell.

134. A transgenic plant comprising a minichromosome vector, wherein said vector comprises a plant centromere and a telomere sequence.

135. The transgenic plant of claim 134, wherein said minichromosome vector comprises an autonomous replicating sequence.

136. The transgenic plant of claim 134, wherein said minichromosome vector comprises a second telomere sequence.

137. The transgenic plant of claim 134, wherein said minichromosome vector comprises a structural gene.

138. The transgenic plant of claim 137, wherein said structural gene is selected from the group consisting of an antibiotic resistance gene, a herbicide resistance gene, a nitrogen fixation gene, a plant pathogen defense gene, a plant stress-induced gene, a toxin gene, a receptor gene, a ligand gene and a seed storage gene.

139. The transgenic plant of claim 137, wherein said first exogenous structural gene is selected from the group consisting of a hormone gene, an enzyme gene, an interleukin gene, a clotting factor gene, a cytokine gene, an antibody gene, and a growth factor gene.

140. The transgenic plant of claim 134, wherein said minichromosome vector comprises a second structural gene.

141. The transgenic plant of claim 134, wherein said minichromosome vector comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, and SEQ ID NO:21.

142. The transgenic plant of claim 134, further defined as a dicotyledonous plant.

143. The transgenic plant of claim 142, wherein said dicotyledonous plant is selected from the group consisting of tobacco, tomato, potato, sugar beet, pea, carrot, cauliflower, broccoli, soybean, canola, sunflower, alfalfa, cotton and *Arabidopsis*.

144. The transgenic plant of claim 143, wherein the dicotyledonous plant is *Arabidopsis thaliana*.

145. The transgenic plant of claim 134, further defined as a monocotyledonous plant.

146. The transgenic plant of claim 145, wherein said monocotyledonous plant is selected from the group consisting of wheat, maize, rye, rice, turfgrass, oat, barley, sorghum, millet, and sugarcane.